Requirements Traceability Matrix

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Req. Spec. No.	Req. Statement	S/W module	Test Spec.	Test Case #	Verification	Mod. Field
GDR1.1*	Adherence to W3C and related standards	N/A	N/A	N/A	Verified	None
GDR1.2	New applications can be added in a well defined way.	Application Metadata Web Service impl.	Developer unit test	4.2.5	Verified	None
GDR1.3	Standards to be used include WSDL, SOAP, WSIL, and WS-Security	Third party software (apache axis)	NA	NA	Partially verified (SOAP and WSDL currently used)	Because of slow progress with WS-Sec implementations, we use SSL and SSH. WSIL is trivial and has been replaced by portlet propreties files.
GDR1.4	Distributed access and control mechanisms for simulation applications.	Several Web service modules (see GDR 1.5)	System integration testing	4.2.9	Verified	None
GDR1.5	System functionality will include job submission, monitoring, etc.	The following Web services: JobSubmit, Job Monitoring, Context Management, File Management	Developer unit testing	4.21, 4.2.2, 4.2.3, 4.2.4	Verified	None

* This is requirement is fulfilled by the developers based on the choice of tools.

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GDR1.6	GDR1.5 services will be supported on multiple backends, accessible through a browser interface	GDR1.5 services and Web Form Portlets were used.	Developer unit and system testing	4.2.6 and 4.2.9	Verified	None
GDR1.7	The system will be able to dynamically configure data flow between applications	Apache Ant Orchestration Web Services	Developer testing	4.2.7	Partially verified (current system will be basis for dynamic coordination)	None
GDR1.10	System will allow easy integration of third party web services	Fault Database Web service, Web Form Portlet	Developer testing	4.2.6, 4.2.8	Verified (IU built clients to USC services and also proxied in USC Web interfaces into the portal.	None
GDR1.12	The system will be able to locate specific backend resources	Application Metadata Web Service	Developer testing	4.2.5	Partially verified. The system currently provides services for expressing and interacting with information, but does not do dynamic discovery.	None

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UBR1.1	Earthquake simulation codes deployed in an accessible environment	Portal and integrated services (system, not component requirement)	Developer and system testing.	4.2.9	Verified	None
UBR1.2	System will be accessible through standard browsers	Third party software (Jetspeed)	Developer unit and system testing	4.2.9	Partially verified (for Netscape 6+, Mozilla, IE 5+)	Support for other browsers (Netscape 4 and Safari, in particular) will not be added unless there is a demand.
UBR1.3	The system will dynamically create user interfaces based upon application descriptions.	Application Metadata Web Service and related clients	Developer unit testing	4.2.5	Verified	None
UBR1.4	Users will be able to compose custom interfaces	Third party software (Jetspeed), Web Form Portlet	Developer unit testing	4.2.6	Verified	None
UBR1.5	The user will be able to select desired system resources	Application Metadata Web Services and related client interfaces, Web Form Portlet	Developer unit testing and basic system testing	4.2.9	Verified	None

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UBR1.6	The user interface will allow the user to integrate input preparation, job submission, and visualization	All services listed above, Web Form Portlet, third party software (Jetspeed).	Developer and system testing	4.2.9	Verified via demonstration. Tests based on HTTPUnit.	None
ADR1.2	Simulation interfaces may be updated	Application Metadata Web Services	Developer unit testing	4.2.5	Partially verified: Developer is able to modify interfaces, but need to extend testing to simulation developers	None